In the Claims

Please amend below claims as followed:

1. (Original)   A code division multiple access (CDMA) communication apparatus, comprising:

means for receiving a signal over a wireless channel, the received signal comprising a desired signal component and an interference component;

means for estimating carrier signal-to-interference and interference energy of the received signal to generate an interference energy value and a signal-to-interference ratio of the received signal, the means for estimating carrier signal-to-interference and interference energy comprising means for extracting an estimate of the desired signal component from the received signal; and

means for generating summed weighted-path signals in response to the interference energy value and the estimate of the desired signal component.

2. (Original)   The apparatus of claim 1, further comprising means for generating soft decision values based on the summed weighted-path signals.

3. (Original)   The apparatus of claim 2, wherein the means for generating soft decision values comprises a log-likelihood ratio generator.

4. (Original)   The apparatus of claim 2, further comprising means for generating decoded signals based on the soft decision values.

5. (Original)   The apparatus of claim 4, further comprising means for generating a message selected from the group consisting of a rate control message and a power fraction request message based on the signal-to-interference ratio.

6. (Original)   The apparatus of claim 1, wherein the means for receiving a signal comprises an intermediate-frequency (IF)-to-baseband converter to generate spread-spectrum in-phase and quadrature signals based on the received signal.

7. (Original)   The apparatus of claim 6, wherein the means for extracting an estimate of the desired signal component comprises a pseudo-noise despreader to generate despread in-phase and quadrature signals based on the spread-spectrum in-phase and quadrature signals.

8. (Original)   The apparatus of claim 7, wherein the means for extracting an estimate of the desired signal component further comprises a decoverer connected to the pseudo-noise despreader to separate data signals along a data channel and a pilot signal along a pilot channel from the despread in-phase and quadrature signals.

9. (Original)   The apparatus of claim 8, wherein the data channel is described by the following equation:

$$s = \sqrt{M\hat{E}_{s,l}} \cdot e^{j\hat{\theta}_l} X_t,$$

where s represents the data channel, M is the number of chips per Walsh symbol, $\hat{E}_{s,l}$ is modulation symbol energy of an lth multipath component of the data channel, $\hat{\theta}_l$ is the phase of the data channel s, and X_t is an information-bearing component of the data channel.

10. (Original) The apparatus of claim 8, wherein the means for estimating carrier signal-to-interference and interference energy further comprises a pilot filter connected to the decoverer to generate a filtered pilot signal.

11. (Currently Amended)   The apparatus of claim 10, wherein the filtered pilot signal is described by the following equation:

$$p = M\sqrt{\hat{E}_{p,l}} \cdot e^{j\theta_l}$$

where p represents the filtered output signal, M is the number of chips per Walsh symbol, $\hat{E}_{p,l}$ is pilot chip energy of an lth multipath component of p, and [[θl]] $\underline{\theta}$ is the phase of p.

12. (Original) The apparatus of claim 11, wherein the means for estimating carrier signal-to-interference and interference energy further comprises a forward link constant generator capable of generating a forward link constant.

13. (Original) The apparatus of claim 12, wherein the forward link constant is described by the following equation:

$$c = \frac{1}{M^2} \frac{I_{or}}{E_p}$$

where c represents the forward link constant, I_{or} is received energy of the desired signal component; and E_p is pilot chip energy.

14. (Original) The apparatus of claim 13, wherein the means for estimating carrier signal-to-interference and interference energy further comprises a look-up table capable of generating a reciprocal of the interference energy value based on the despread in-phase and quadrature signals, the filtered pilot signal and the forward link constant.

15. (Original) The apparatus of claim 14, wherein the means for generating summed weighted-path signals comprises:

a constant generator capable of generating a constant

$$k = \frac{1}{M} \sqrt{\frac{E_s}{E_p}},$$

where E_s is modulation symbol energy; and

a multiplier connected to the constant generator and the pilot filter to generate an estimate of a channel coefficient

$$\hat{\alpha} = \sqrt{\hat{E}_{s,l}} \cdot e^{j\hat{\theta}_l},$$

where $\hat{E}_{s,l}$ is an estimate of the modulation symbol energy of the lth multipath component, and $\hat{\theta}_l$ is an estimate of the phase of the pilot signal.

16. (Original) The apparatus of claim 15, wherein the summed path-weighted signals are generated based on the estimate of the channel coefficient, the reciprocal of the interference energy value, and the number of chips per Walsh symbol.